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A Nutrition Field Experience with the Kentucky Department for Human Resources

Jane G. Baxter
University of Tennessee, Knoxville

To the Graduate Council:

I am submitting herewith a thesis written by Jane G. Baxter entitled "A Nutrition Field Experience with the Kentucky Department for Human Resources." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Nutrition.

Mary Nelle Traylor, Major Professor

We have read this thesis and recommend its acceptance:

Jane R. Savage, Robert H. Kirk

Accepted for the Council:
Dixie L. Thompson

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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Accepted for the Council:

Vice Chancellor
Graduate Studies and Research

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A NUTRITION FIELD EXPERIENCE WITH THE KENTUCKY DEPARTMENT FOR HUMAN RESOURCES

A Thesis

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Degree

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Jane G. Baxter

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ABSTRACT

This thesis reports and analyzes the seven-week field experience in public health nutrition spent by the student nutritionist with the Kentucky Department for Human Resources. The purpose of this field experience was to apply the scientific principles learned at the university to "real world" problems encountered in the practice of public health nutrition. Further, the purpose of participation in a federal supplemental foods program was to explore the various roles and functions of the public health nutritionist in a defined program.

The period of the field experience provided many opportunities for experiences that combined to accomplish the objectives. A major part of the student nutritionist's time was spent in Morehead, Kentucky; the remainder of the period in April-May, 1974, was spent with nutritionists in the Nutrition Office, Bureau for Health Services. She was able to explore the role and function of the public health nutritionist as administrator, educator, counselor, and consultant through observation of and participation in nutrition services. Through the analysis of her performance in these functions, she could examine the role and evaluate her skill.

The experiences in the county and at the state office strengthened the student nutritionist's philosophy of public health, that is the promotion of comprehensive health care for all citizens and the support of individual responsibility for health maintenance. She sees the public health nutritionist as a health professional who can conduct

effective program planning and serve as a link in the health delivery system.

The student nutritionist has observed the changing structure of a state public health organization and has observed how this process sharpens the basic dedication to service required by the public health professionals. The frustrations of this process call for leaders and staff who can see the real purpose of their work and relate their objectives to emerging structure and programs.

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CHAPTER I

INTRODUCTION

The field experience in public health nutrition is designed to integrate scientific principles introduced to the student at her educational institution with practical service while working at the assigned field agency. The educational experience of supervised participation in the actual functioning of a public health agency puts to use principles learned in the classroom.

In this period of seven weeks in the spring of 1974, the author's objectives for the field experience were:

1. to strengthen her philosophy and understanding of public health;

2. to study the mission, function, and responsibilities of the state public health agency, especially the functioning of the nutrition unit;

3. to observe all facets of operation of a local public health agency, and to observe the operation of other health care agencies in the area;

4. to broaden her experiences in dietetics, patient counseling, and diet therapy;

5. to participate in developing, planning, executing, and evaluating nutrition education activities.

The Kentucky Department for Human Resources was chosen as the field agency. This location was selected to give the student nutritionist

some appreciation of the characteristics of a different area of the country. A major part of the student nutritionist's time was spent in Morehead, Kentucky, with the Rowan County Health Department. This experience was designed to provide more opportunities for direct service to patients. The remainder of the period April-May was spent with nutritionists in the Nutrition Office, Bureau for Health Services. This provided an opportunity to increase the student nutritionist's knowledge of the characteristics of the state which affect the public health needs, as well as the nature of nutrition services in the state.

Chapter II describes the Commonwealth of Kentucky and the needs which determine the programs and services of the Kentucky Bureau for Health Services. In Chapter III the design of the health delivery system within the organization of the Department for Human Resources is discussed. The role and function of the public health nutritionists in Kentucky is related in Chapter IV. In Chapter V the nutrition student analyzes her performance in a specific service activity. The closing summary and conclusions are in Chapter VI.

CHAPTER II

CHARACTERISTICS AND PUBLIC HEALTH NEEDS OF KENTUCKY

The public health needs of an area are influenced by its geography and history, nature of the population, economy, and educational level. These characteristics and factors, as well as vital and medical statistics and information from health studies, should be examined to determine the policies and programs of the state public health agency.

I. GEOGRAPHY AND HISTORY

Geography has had a meaningful influence on the historical development of Kentucky. The geographical arrangement of soils and resources in Kentucky fostered a wide variation of personality and culture. The state is bordered by the Ohio and Mississippi Rivers on the west and north and by tributaries of the Ohio on the northeast. The great Appalachian wall marks the boundary on the southeast. The state land area is 40,395 square miles; it ranks thirty-seventh in area in the United States (1).

Daniel Boone and John Finley scouted the way in the late 1760's for pioneers who came to settle Kentucky through the Cumberland Gap in the Appalachian Mountains. By 1775, there were several early settlements on the frontier. By 1792, river trade had begun. Farm produce was hauled to the mouths of the Kentucky creeks and then floated downstream to New Orleans on rustic log boats (2).

The technological advance of the steamboat in 1811 brought a revolution as river trade expanded. The economic centers of western Kentucky prospered and Louisville became the most important town in the state. Large plantations were established and a planters society developed in the 1820's with an aristocracy not unlike that of the lower southern cotton belt.

The Bluegrass region around Lexington in central Kentucky became a rich center of agriculture during the early 1800's. Grain and tobacco crops prospered. Breeders imported stock from abroad to improve not only Kentucky livestock but that of the nation. Bluegrass horse farms in central Kentucky began a tradition of thoroughbred stock. By the 1880's, Lexington was a thriving industrial town (2).

In Eastern Kentucky the mountaineers hewed out meager corn patches on the steep Appalachian slopes and hacked out plots in narrow creek and river valleys. The mountaineers had to be strong and energetic to farm the hills. The conditions produced a genuine self-sufficient rural society. Isolated from the world, individuals were deeply marked in habit, speech, dress, and philosophy. Intensive personal values shaped folk literature, mores, and behavior. The pockets of family settlements buried in the mountain hollows remained largely untouched.

In the Eastern Kentucky coal fields, by the 1880's some of the mountaineers had become miners. They began digging large amounts of coal from the ground. The mountaineers had to adjust to the industrial labor system and to living in the mining company towns. They began to organize in unions to protect their rights.

During the World Wars social and economic changes began to occur in the state which have influenced modern developments (1). National demand for coal stimulated expanded coal mining in the Eastern Kentucky coal fields. The introduction of automatic electrically powered machines to mine the coal minimized human labor and brought enormous economic hardship on the miners. The practice of strip mining was adopted in the 1950's to speed production and further reduced jobs for miners. The decline of coal mining and the resulting poverty and health problems suffered by the miners and their families influenced planning for health services for the residents of Eastern Kentucky.

Inexpensive electric power became widely available after several dams were built on Kentucky rivers by the Tennessee Valley Authority. Rural electrification lines were built into the countryside in the 1930's and isolated families received their first introduction to culture and communication with the outside world. There was a revolution in much of the state's industrial development in the 1940's. New industries located in many Kentucky towns.

The construction of ever increasing mileage of improved highways in the 1950's encouraged more mobility of the population and greater economic development. Tourist promotion was greatly enhanced by the access to good roads. The state park system was developed in response to environmental interest in conservation. These parks attracted great numbers of visitors to their recreational facilities and made the tourist trade a major source of income. One example of the fine parks developed was The Land Between the Lakes, a large recreational and educational

facility in southwestern Kentucky used by millions of visitors each year. The Tennessee Valley Authority built the dams surrounding the park and planned the area development as a demonstration of land carefully administered for public use.

There have historically been many pressures on the state government for authorization of state funds. Appropriations have been necessary for construction of roads, improvements in schools, and development of conditions to encourage industrial expansion. Allocations for state health programs have become more adequate in recent years as health needs have been identified and publicized by regional planning groups and other health agencies.

II. POPULATION

The population of Kentucky has increased steadily. Census reports until 1940 showed a continuous increased rate of population growth to 8.8 percent in 1940, after which the rate of population growth declined (3). During this period of history, numbers of Kentuckians were drawn northward to job opportunities in industrial centers. The 1970 census report showed a 5.9 percent rate of population growth. Total population for the state in 1971 was 3,248,400.

In recent years population growth has tended to occur in those counties in the state concentrated in and around urban centers. Population in urban areas increased by 24.4 percent between 1960 and 1970 while rural population declined 8.9 percent during the same period. In 1970, the urban population had increased to 53.2 percent from the 44.5 percent reported in 1960 (3).

In 1971 distribution of the population was found to be 3,008,250 whites and 240,150 nonwhites (almost all Black). There were 1,593,950 males and 1,654,450 females (4).

Rowan County, located in Eastern Kentucky about mid-way between Lexington, Kentucky and Huntington, West Virginia, had 12,808 residents in 1960. The urban center is Morehead, where Morehead State University is located. With changes in census rules in 1970 whereby students at the university were counted, the 1970 county registration increased to 17,010 (5). Many other counties in Eastern Kentucky recorded a decrease in population during the same period.

The shifting pattern from rural concentration of population to urban centers creates a different need for public health programs. Urban centers like Lexington and Louisville have reasonable access to primary health care facilities and services, but do need medical care direct services for low-income populations. The organization for health services in urban centers is more specialized toward particular groups in need of those services.

Primary health care is the need in rural areas, and nutrition often has been a component of the services planned in the Appalachian area. Many of the rural counties in the Appalachian area in Eastern Kentucky have responded to the need for improving the nutritional status of the residents by providing a public health nutritionist for the area or by cooperating with a project or agency in providing comprehensive health services.

III. ECONOMY

The basic cause of population change has been employment opportunities, which in turn have been related to economic development factors in Kentucky (6). Increased business investment in urban areas produced more job opportunities to attract the population to the urban centers.

Concurrent changes in agricultural opportunities have contributed a negative effect. Increasing mechanization on farms has resulted in decreasing numbers of farms and acres in cultivation and decreasing numbers of tenant farmers as restrictions on tobacco acreage have been imposed. The squeeze on small farmers created by high labor costs, shrinking tobacco acreage, and uncertainties of the weather drove many farmers out of tobacco growing. In central Kentucky many farmers diversified their farm crops to include those suitable for the use of farm machinery, such as wheat, potatoes and other vegetables, fruits, and small grains.

The starting point for reversing a decline in employment has been the addition of jobs in manufacturing. An abundant labor supply with facilities to train workers, a communications network of good roads, and a favorable business climate for industry promote manufacturing growth. Opportunities for farmers to supplement farm income by off-farm jobs has been highly significant in the total economic picture of the state; however, most manufacturing industries are in the large urban areas and along the Ohio River. Major industry groups in 1972 reported 732,508 employees in Kentucky (7). Manufacturing accounted

for the highest number of employees, followed by retail trades, services, and mining.

Eastern Kentucky has suffered from a number of overlapping problems for some years related to unemployment and underemployment. A relatively large number of older workers or unskilled workers live in an area that is not favorably located in regard to raw materials and markets and that has a heavy concentration of declining or slow-growing industries (8). Isolation from the main transport arteries and markets of the country, relatively low levels of education and income plus relatively high birth rates, relative concentration in coal mining, which is a slow-growing industry, and marginal agriculture have defined a set of problems for the region and produced a population with many needs.

Rowan County is in this less than favorable economic area of Eastern Kentucky. The per capita income in 1970 was $1,553, which compared to the state average of $2,425 and the U. S. average of $3,595 (7). Agricultural production has centered around tobacco.

Public health programs of the depressed economic area are planned in response to the needs of the population. Environmental and medical services required for good health are priorities. Clean water and sanitary disposal of human wastes are necessary for good health. Rowan County has 74 percent of households with running water and toilets; most of these homes are located in the urban center. Many rural homes lack running water and inside bathroom facilities.

The City of Morehead sewage treatment plant was built to serve 8,000 patrons and currently is used by approximately 13,000 when

Morehead State University is in session. During wet weather and during peak periods on a normal day the plant bypasses a portion or all of the wastes. The city has applied for federal funds to construct an addition necessary to provide an adequate sewage system; to date no approval of funds has been received, although the need has been recognized by environmental authorities (9).

IV. EDUCATION

The median number of school years completed by persons 25 years and older in Kentucky in 1970 was 9.9 grades (7). While 38.5 percent of the group had completed four years of high school or more and 7.2 percent of the group had completed four years of college, some 9.4 percent had completed less than five school years. In Rowan County the median number of school years completed was 8.4 years.

The state system of higher education has traditionally had as its purpose the service of the people of the state. In 1970 college enrollment was 84,043. Continued growth in these institutions has been marked by broadening programs and services. Individualized degree programs can be planned to meet career goals. Scheduling classes at night for the convenience of working people and teaching courses off-campus to save students' travel are services typical of these institutions.

Knowledge of the educational level of the population is a factor relevant to planning public health programs. The level of education is related to both the nature and content of health education programs. Educational achievement is indicative of the vocabulary which

the general population can understand, and also is indicative of relevant topics for health education.

The philosophy of education in Kentucky was first voiced by Governor Gabriel Slaughter (1816-1820) in advocating a system of public schools so that, "Every child born in the State should be considered a child of the Republic and educated at public expense." A school system with wide distribution was requested because "nothing short of carrying education to the neighborhood of every man in the state would suffice" (10).

The philosophical base for public education in Kentucky was established in a message by the first Superintendent of Public Instruction, Joseph J. Bullock (1838-1839), "The great object of the Common School Law is to give every child in the Commonwealth the good common school education; to develop the whole intellect of the state. The great principle of the System is that of equality; the state has an interest in every child within her limits" (10).

In October 1973 the State Board of Education for the Commonwealth of Kentucky published the current goal statements, reexamined and updated in an effort to keep education relevant for Kentucky's citizens. Each citizen of the Commonwealth should be assured of an opportunity to realize his full potential in the following areas: general education; economic understanding; human relationships; citizenship; creative, constructive, and critical thinking; physical and mental well being; occupational competence; and cultural appreciation.

Elementary school students are taught in seven schools in Rowan County. Grades 1-8 are taught in six of the elementary schools located in the student's geographical area of residence throughout the county. The Morehead Elementary School includes pupils in grades 1-6 and the Junior High School includes pupils in grades 7 and 8. All high school students in the county attend a central county high school, with transportation provided by county school bus. Since 8.4 was the median number of school years completed in Rowan County in 1971, there would appear to be a dropout of students at the point of transfer to the central county high school.

In response to the need for nourishment of the Rowan County school children, the schools serve about 2,000 hot meals a day. The schools participate in a number of federal food programs under the National School Lunch Act to provide both breakfast and lunch service to the six county elementary schools. School personnel are aware of those children who come from especially low-income homes where food is scarce and there is not likely to be an evening meal. Extra servings of food are often given these children in an effort to provide for their nutritional needs. Kentucky data from the Ten-State Nutrition Survey indicated that the school lunch contributed a considerable proportion of the day's total nutrient intake of many school children.

V. VITAL AND MEDICAL STATISTICS

Birth Rate

The birth rate in Kentucky in 1971 was 17.7 per 100,000 population; this is compared to the U. S. birth rate of 17.1 in the same

year (4). The birth rate in Rowan County was 14.0 in 1971. The birth rate has steadily declined since 1950, following the same trend as the national birth rate.

Total live births in Kentucky in 1971 were 98.8 percent of births, while in the U. S. the total live births were 98.5 percent. Ninety-nine percent of the white population delivered in a hospital, while 96.9 percent of all other population groups delivered in a hospital.

Infant Mortality

The infant death rate per 1,000 live births in Kentucky decreased from 33.5 in 1911 to 18.9 in 1971, a 78.6 percent decrease over the 60 years. The leading cause of death in 1971 under the age of one was congenital anomalies. Pneumonia and influenza ranked second, and accidents a low third. Historical regional customs of marriage within the immediate geographical area would seem to influence the high rate of infant congenital anomalies.

Public health programs to improve prenatal and infant care are underway in Kentucky, with the objective to further reduce infant mortality. Emphasis is placed on high-risk patients, in an effort to increase the chances for the survival and well-being of the infant and the mother.

Leading Causes of Death

There were 33,581 deaths recorded in Kentucky from all causes in 1971 (4). More males died than females both among whites and

nonwhites. The highest number of deaths was reported in the age group 75-79 years, and the next highest number of deaths was reported in the age group 80-84 years.

Table 1 reports the leading causes of death reported in 1971 for Kentucky and the United States. Causes of death are classified according to the Eighth Revision International Classification of Diseases, Adapted for Use in the United States. Rate is reported per 100,000 population (4).

Diseases of the heart were the leading cause of death in 1971 in Kentucky and in the U. S. In Kentucky deaths from heart disease increased with advancing age. In 1971 diseases of the heart accounted for 35 percent of the Kentucky deaths ages 45-54, for 41 percent of the deaths ages 55-64, for 44 percent of the deaths ages 65-74, and for 48 percent of the deaths 75 years and over.

The next four leading causes of death in 1971 ranked the same for Kentucky and the U. S.: malignant neoplasms; cerebrovascular disease; accidents; and influenza and pneumonia. Diabetes mellitus ranked one place higher in Kentucky than in the United States. The Kentucky infant death rate of 18.7 was lower than the U. S. rate of 19.2 in 1971. Kentucky health programs for better prenatal and infant care have shown successful results.

The ninth and tenth leading causes of death in Kentucky, suicide and emphysema, do not rank among the ten leading causes of death in the United States. The economic hardships under which many residents must live could explain the high suicide rate. The deaths from emphysema

TABLE 1

LEADING CAUSES OF DEATH REPORTED IN 1971 FOR KENTUCKY AND UNITED STATES

	Kentucky			United States	
Leading Causes of Death	No. of Deaths	Rank	Rate[a]	Rank	Rate[a]
Diseases of heart	13,337	1	410.6	1	358.4
Malignant neoplasms	5,436	2	167.3	2	160.9
Cerebrovascular disease	4,072	3	125.4	3	100.6
Accidents	2,058	4	63.4	4	53.8
Influenza and pneumonia	958	5	29.5	5	27.2
Diabetes mellitus	250	6	21.6	7	18.2
Certain causes of mortality in infancy	606	7	18.7	6	19.2
Arteriosclerosis	568	8	17.5	9	15.5
Suicide	402	9	12.4	--	11.1
Emphysema	492	10	12.3	--	10.8

[a]Rate per 100,000 population.

Causes of death classified according to Eighth Revision of the International Classification of Diseases, Adapted, 1965.

Source: Kentucky Department of Health (1973), Kentucky Vital Statistics Report 1971. Kentucky Department of Health, Frankfort, Kentucky.

could be related to the occupational hazards of mining.

VI. HEALTH STUDIES

Ten-State Nutrition Survey

Kentucky was one of the ten states surveyed in 1968-1970 in a national effort to determine the incidence and location of serious hunger and malnutrition and related health problems. Emphasis was placed on including low-income areas. Sixty-two enumeration districts in 21 counties were selected at random across Kentucky as representing the variations in geography, culture, economics, and social activity. While Rowan County was not included, enumeration districts adjacent to Rowan County were surveyed. A large number of enumeration districts were located in the Appalachian area of Eastern Kentucky.

The survey design used was that developed for the Ten-State Nutrition Survey and included clinical assessment, including anthropometric measurements; biochemical measurements of blood and urine; and dietary assessment of nutrient intake and usual pattern of consumption. Dental examinations were conducted, and information on other related factors was obtained.

Infants and young children were considered a high risk population and received more detailed biochemical and dietary evaluation. More than 50 percent of the detailed evaluations in the Ten-State Survey were done on children 16 years of age or less.

Family income was considered because it related to whether adequate nutrition could be provided for its members. The Poverty Income

Ratio (PIR), as proposed by Orshansky (11), related certain income characteristics of a given family to a defined poverty level. A family whose income was exactly at the poverty level had a PIR of 1.0. The family's poverty index included family size, sex of the head of household, and place of residence (farm or non-farm).

Of the 1,582 households included in the Kentucky Survey sample, over 65 percent had annual incomes of $3,999 or less. The average PIR was 1.1 (12). A PIR of less than 1 was found in 57.8 percent of the households. Racially the survey sample included 20.4 percent Black and 79.6 percent white; average age was 29 years.

Clinical findings. Measurements of height and weight were compared to the Stuart-Meredith standards (13). More than the expected number of children were below average in weight, and slightly more than the expected number of children, both Black and white, were below average in height. Adult females proved to have a high incidence of obesity, based on triceps skinfold thickness.

Biochemical findings. Iron deficiency anemia was found in 15-20 percent of the total population. Low hematocrit and hemoglobin levels were found in 20 percent of the population, and low or deficient serum iron levels were found in 20 percent.

Anemia was present in 27 percent of Blacks and 16 percent of whites and was more often found in lower poverty level households. Vitamin deficiencies of folic acid, vitamin A, vitamin C, riboflavin, thiamin, as well as iodine deficiencies were found.

Multiple deficiencies tended to appear in subjects who had a PIR of less than one. Kentucky recorded more cases of people with two or more nutrient deficiencies when compared with results from other states in the Ten-State Survey. There was an incidence of multiple deficiency three times greater among the Black population than among the white. Adolescents were the age group having the highest incidence of multiple deficiencies.

Dental findings. Extensive dental work was needed by the Kentucky population surveyed. Condition of the teeth was very poor. The data on decayed, missing, and filled teeth indicated poor dental care was associated with poor dental health.

Dietary intake. Among low-income households, calories came from highly sweetened foods and fatty meat sources, such as sausage, pork neck bones, and short ribs of beef. All households below the poverty level had a lower intake in all nutrients than families above poverty. The infant population in Kentucky had the lowest intake of iron and protein among the Ten States.

School age children appeared to receive a considerable amount of their nourishment from the school lunch. In the survey 86 percent of the adolescents attending school where a lunch program was available did eat the lunch.

Infant-Feeding Practices

A survey of infant-feeding practices conducted in 1971 by the Kentucky public health nutritionists found that an iron-fortified

formula was fed in 40 percent of the large Kentucky hospital nurseries and in 37 percent of small hospital nurseries (14). Eighty-five percent of mothers surveyed said they used the same formula at home as that provided by the hospital nursery. The survey found that mothers had not been given adequate infant feeding instruction in the hospital.

The American Academy of Pediatrics Council on Nutrition recommends that all babies be fed an iron-fortified milk during the entire first year of life.

> Pediatricans and other health professionals should engage in a program of public education to convince American mothers to provide their infants with a source of dietary iron. This can be achieved by continuing an iron-fortified formula as long as the infant is bottle fed, and then using the same iron-fortified formula as beverage milk along with the usual solid foods until the infant is at least 12 months of age (15).

Iron-fortified formula is not always available in the small grocery stores in which many mothers must shop. Only about 30 percent of small stores surveyed had iron-fortified formula.

CHAPTER III

BUREAU FOR HEALTH SERVICES

As part of a general state governmental reorganization implemented by Governor Wendell Ford, the Kentucky Department of Health was reorganized in 1973 and became a part of the Department for Human Resources. Within the five Bureaus of the Department for Human Resources are grouped the governmental services made available to the citizens of the Commonwealth of Kentucky. These five bureaus, each headed by a Commissioner, are the Bureau for Social Insurance, the Bureau for Social Services, the Bureau for Administration and Operations, the Bureau for Health Services, and the Bureau for Manpower Services. The organization plan of the Department for Human Resources is given in Figure 1.

The organization of the Bureau for Health Services is concerned with the delivery of health services to the public. It integrates functions of the former State Department of Health, Department of Mental Health, and the Commission for Handicapped Children. The reorganization was meant to make the state government more efficient and to consolidate the energies of the government in providing the services to meet the needs of the people. The Bureau for Health Services becomes an enormous operation involving 11,000 people and a budget of about $600 million dollars annually (16).

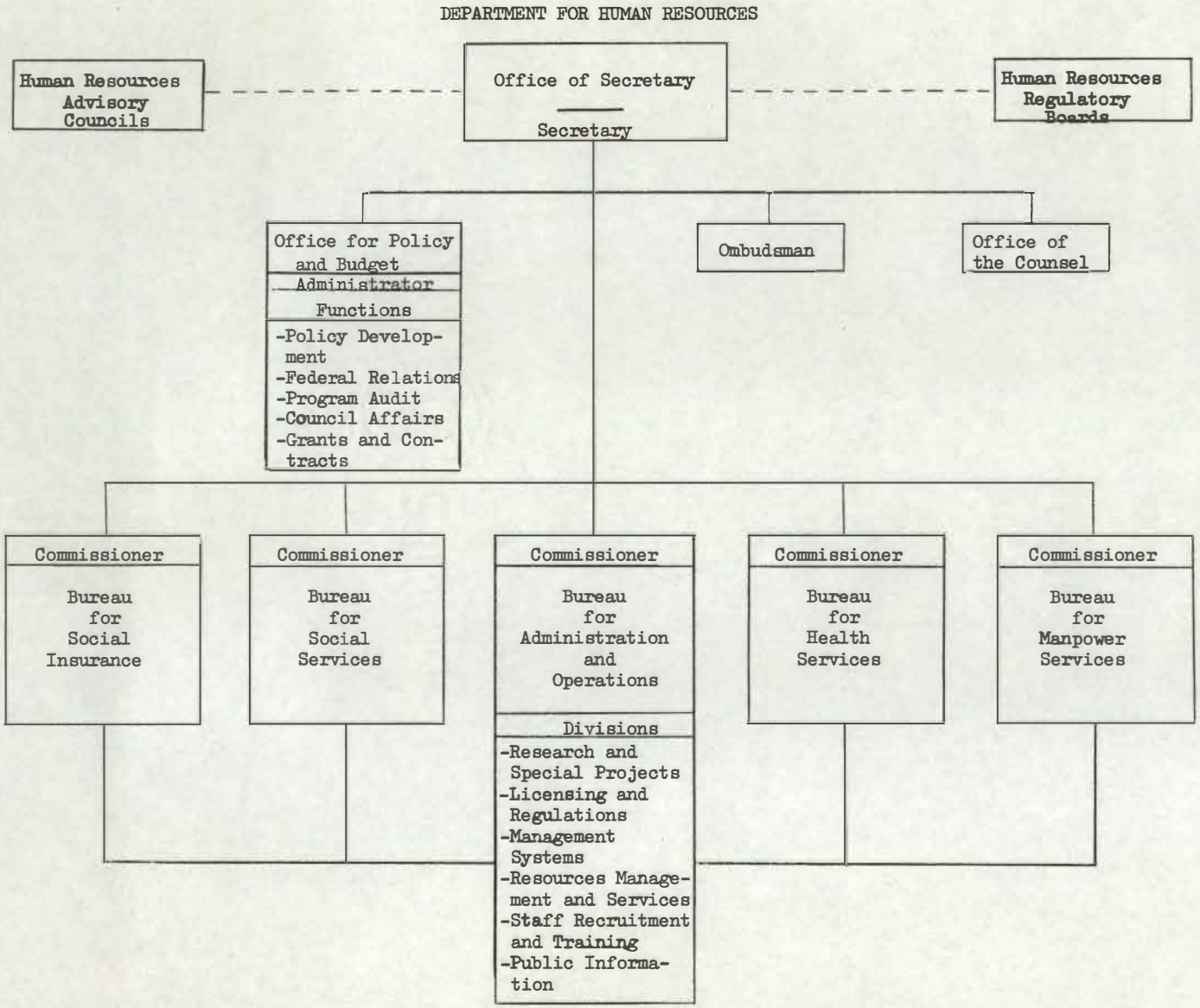

Fig. 1 Department for Human Resources Organization Chart.

I. FUNCTIONAL UNITS

There are seven units reporting to the Commissioner for Health Services. The organization chart of the Bureau for Health Services is given in Figure 2.

Health Administration

Four offices in the Bureau are concerned with health administration in the state: Community Health Services, Clinical Standards and Peer Review, Laboratory Services, and the Center for Comprehensive Health Systems Development. Centralized control of programs can be accomplished through this pattern.

Community Health Services includes the Clinical Support Unit to which are assigned all the chiefs of the health disciplines, including the Chief of Nutrition. This Clinical Support Unit is responsible for definition of standards for all program components. Local health departments are supported by Community Health Services. Other offices of the Community Health Services are the Program Evaluation Unit, charged with data collection; the Research and Special Projects Unit; the Community Health and Mental Health Unit, and the Client Services Liaison.

The second office reporting to the Commission for Health Services is Clinical Standards and Peer Review. This body has a broad function to set standards and review quality for all programs in community health and mental health within the Bureau. The student nutritionist obtained a reference copy of the Kentucky Standards for

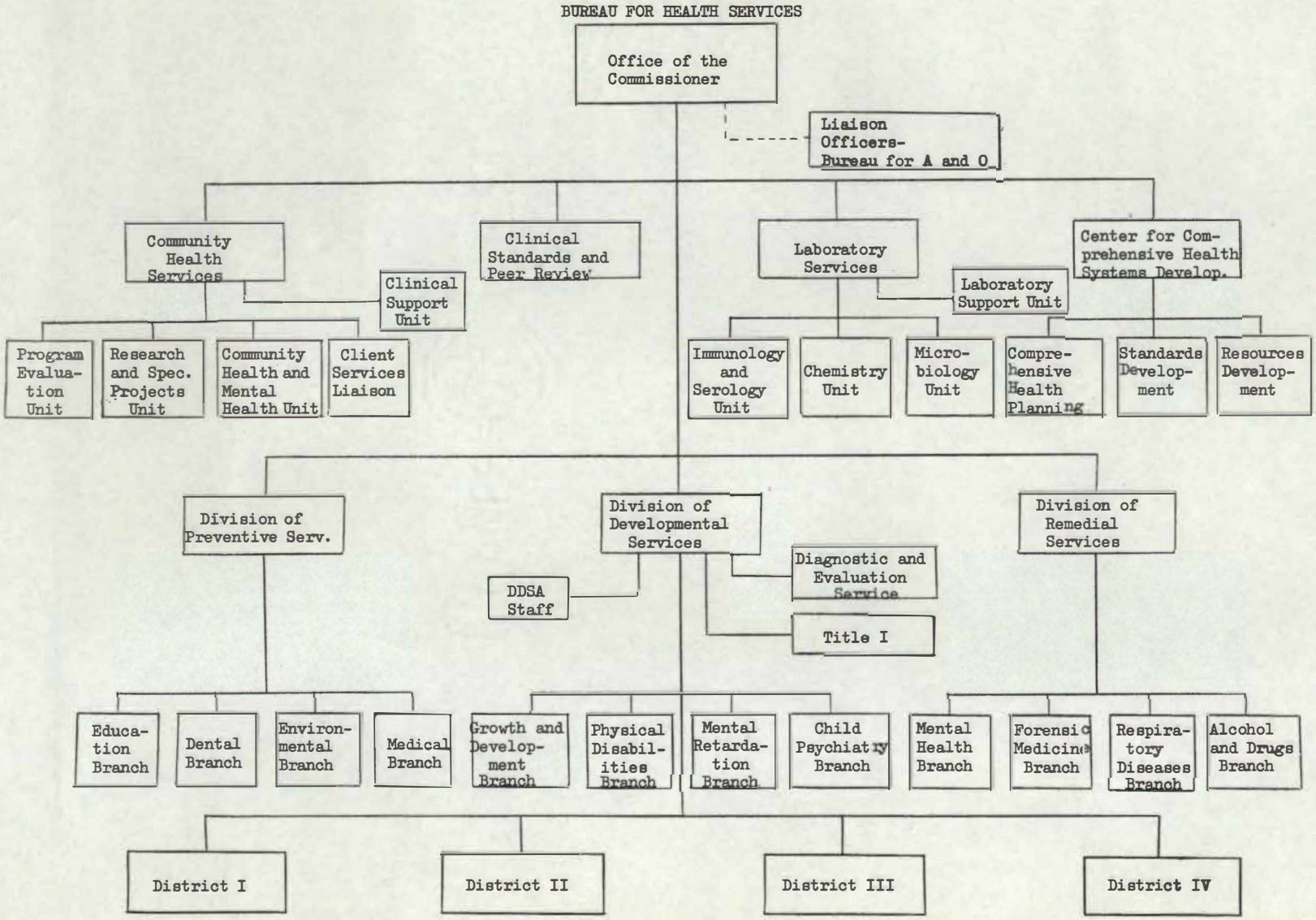

Fig. 2 Bureau for Health Services Organization Chart.

Operation of Nursing Homes (17) when she observed the inspection and licensure function of a dietary consultant. Any nursing home which is permitted to operate must comply with this set of state standards written to protect the patients.

Another responsibility of the Clinical Standards and Peer Review section is to submit their plan for the functioning of PSRO (Professional Standard Review Organization). Federal regulations now require PSRO in health programs.

The office of Laboratory Services maintains high quality laboratory services. A wide variety of tests can be performed on request, ranging from testing infant's blood for phenylketonuria to performing tests on water samples, milk samples, and serology.

The Center for Comprehensive Health Systems Development functions statewide to assess the health needs of the Area Development Districts. Kentucky Law KRS147hA established these Area Development Districts as the legislated, publicly empowered regional planning bodies through which multi-county problems could be solved. Health planning for the Area Development Districts is done by the Area Comprehensive Health Planning Councils, assisted by the staff of the Area Development Districts. The state Comprehensive Health Planning staff provides support to the Area Comprehensive Health Planning Councils. These councils are made up of consumers of health care, providers of health care, and representatives of local government with consumers to be in the majority. The Area Comprehensive Health Planning Councils are charged with transforming the existing fragmented system of health care

into an effective system meeting the tests of availability, accessibility, and acceptability.

Health Policy and Technical Assistance

Three divisions are charged with policy determination for state programs under their area of service and are available for technical assistance. These divisions render technical assistance to the districts: Division of Preventive Services; Division of Developmental Services; and Division of Remedial Services.

The Division of Preventive Services is directed toward the preventive phase of public health. The branches of this division are the Education Branch, the Dental Branch, the Environmental Branch, and the Medical Branch.

The Division of Developmental Services sets the policies for services to the children of Kentucky and their mothers. The Growth and Development Branch includes the Nutrition Office, which is available for technical assistance on request from other health services. Complete discussion of nutrition services is found in Chapter IV. Physical Disabilities Branch provides clinics for handicapped children with orthopedic, visual, and speech handicaps. Mental Retardation and Child Psychiatry Branches are also under the Division of Developmental Services.

The Division of Remedial Services determines the policies for treatment of conditions requiring prolonged care. These services are established by the Mental Health Branch, Forensic Medicine Branch,

Respiratory Diseases Branch, and the Alcohol and Drugs Branch.

II. HEALTH DELIVERY SYSTEM

Health services are delivered to the citizens of Kentucky through the organization of the Bureau for Health Services. Total reorganization has not yet been implemented. Geographical areas of the regions and districts are shown in Figure 3.

Regions

Four major regions, shown in Figure 2, p. 23, as districts, are designated within the state for decentralized administration. Regional staff positions are yet to be filled. When functioning, they should provide technical assistance and support to the district health department staffs. Each of the four regional staffs is to include a nutritionist.

Facilities and programs for comprehensive care for the mentally ill are provided in these four regions. Total health care for the residents of Kentucky includes medical services, mental health services, and crippled children's services.

Area Development Districts

Fifteen Area Development Districts are planned to deliver the health care programs to the citizens. Each district is made up of neighboring counties making up a social, economic, marketing, and transportation complex. The fifteen development districts are empowered to function as district health departments when the citizens of neighboring counties express their desire to organize a district health

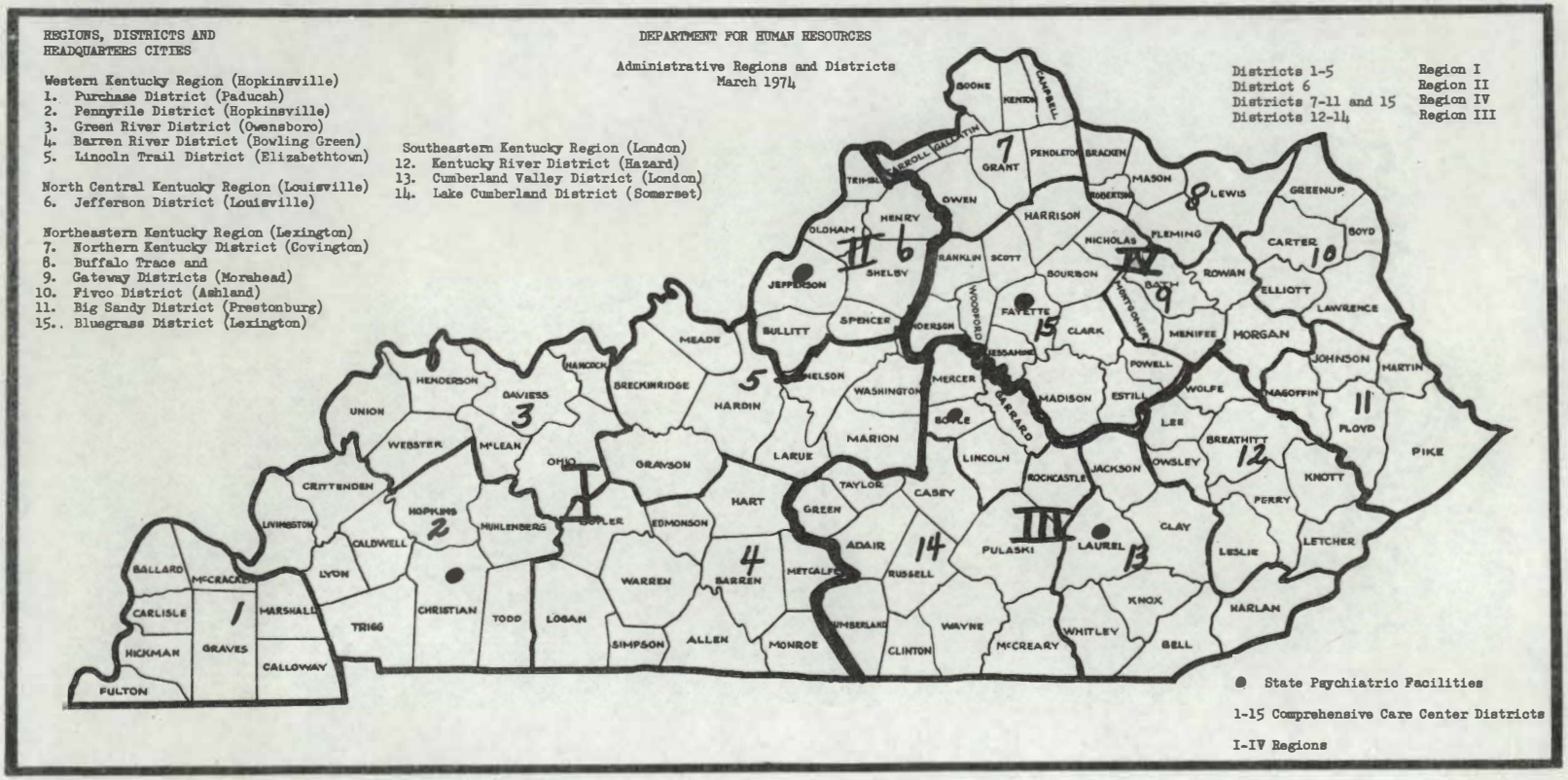

Fig. 3 Regions and Districts for Health Services.

department (18). In this event, the local health department still exists but carries out fewer functions. Implementation of district health departments is presently incomplete.

Regional Comprehensive Health Planning Councils can study the advantages of the district health department and publicize their recommendations. The District Health Director and his staff with the advice of the district board of health plan for the delivery of health services to the citizens of their district. State health planners expect each district to staff a nutritionist to integrate nutrition services into the total district health plan of services. Appropriate planning can bring nutrition into the total concept of health services.

Local Health Units

There are 120 counties in Kentucky and as many health departments, the local health unit. The local health departments are by law autonomous units and are responsible to the local boards of health. The local health department plans programs and services to meet the needs of the people, under the direction and approval of the local board of health. The decision to hire a public health nutritionist in the local health unit is made by the local board of health. At the present time, the Rowan County Health Department does not employ a public health nutritionist and does not have a program specifically dealing with nutrition. The county health nurses act in an advisory capacity on nutrition questions. Pamphlets on nutrition and special feeding problems are available at the Health Department for the public.

The local health departments receive state support and assistance through the Office of Community Health Services. Funds for the operation and maintenance of local health departments in Kentucky come from local, state, and federal sources.

CHAPTER IV

NUTRITION SERVICES

Nutrition programs and services in Kentucky have been planned to meet the health needs and characteristics of the people. Recent state governmental reorganization has changed the structure of the delivery system, but the purpose of the nutrition services has remained to serve the needs of the people.

The Nutrition Office in the Bureau for Health Services, Division of Developmental Services, Growth and Development Branch, functions as a link in the system delivering health services to the people of the Commonwealth of Kentucky. Public health nutritionists staffing the Nutrition Office function in several roles of professional service, many of which were observed by the student nutritionist during the field experience.

The public health nutritionists work under Merit System specifications. Three classifications of nutritionists are recognized in the counties and districts; training and experience determine rank. The class specifications for these classifications are found in Appendix A.

I. ADMINISTRATION

Functions of the public health nutritionist in the area of administration include staff supervision and support; recording, reporting, and correspondence; program planning and evaluation; and

special assignments. Appropriate administrative functions are carried out by the six public health nutritionists in the Nutrition Office. The public health nutritionist as an administrator must be able to effectively plan programs based on needs, monitor their progress, and evaluate their results before initiating other plans. The field experience provided opportunities for the student nutritionist to explore the role and function of the public health nutritionist as an administrator.

Program Planning

As the first step in effective program planning, the administrator should first identify the needs of the population to be served so that the public health efforts will be relevant to the population. She can assess the needs through statistical reports of health status, through conducting her own survey of health or nutritional status, through first-hand observation of the population, through talking to related health care agency personnel, through interviews of civic officials, and through other activities appropriate to the area. The student nutritionist was briefed on the Anthropometry and Hematology Surveillance System in which the Nutrition Office is participating to identify nutrition needs. The program is an effort to acquire data needed to assess the nutritional status of children in Kentucky. Height, weight, hematocrit, and hemoglobin data collected through Kentucky Medical Assistance Program (KMAP) medical screening, Well Child Clinics, and the Special Supplemental Food Program for Women, Infants, and Children (WIC) medical evaluations

are being analyzed by computer at the Center for Disease Control in Atlanta, Georgia. Nutritionists in about twenty counties in Kentucky have contributed data to the Anthropometry and Hematology Surveillance System. This study is an example of resourceful data collection; it utilizes available resources to identify nutrition needs.

In making program plans, the public health nutritionist should review the resources at hand available for use, state the present condition, and decide the level of improvement toward which she is striving. She should specify the overall objectives for the action, then define sub-objectives stated in measurable units.

The Management by Objectives (MBO) system has been used throughout the state public health agency since 1971. Specific program objectives, sub-objectives, and resources must be enumerated in preparing the program plan. Detailed evaluations have been conducted at quarterly intervals. A recent MBO quarterly report evaluating progress toward the objectives of the Nutrition Office is found in Appendix B. Utilization of MBO process is an aid to effective use of resources, efficient use of personnel, and direction of efforts toward the objectives. The process can be considered as a technique to assist administrators in planning and goal direction.

Another planning function of the public health nutritionists staffing the Nutrition Office is to set standards for the programs of the Growth and Development Branch and to establish criteria for administration of the clinics and other programs assigned to the Branch.

Implementing the Programs and Services

To implement the plan, the public health nutritionist carries out activities which are designed to fulfill the sub-objectives. The activities should be carried out in time spans allowed for under the sub-objectives.

Thirteen Special Supplemental Food Programs for Women, Infants, and Children (WIC) are being conducted under a federal grant throughout the state of Kentucky. Participants in the program are pregnant or lactating women, infants, and children under four years of age. The student nutritionist took part in the implementation of this program during the field experience. The Nutrition Office was assigned to carry out the program in the state. The purpose of the program is to prescribe and supply nutritious foods through vouchers indicating which foods are to be supplied by the grocer and to determine the medical benefits of this type of food intervention program. Rowan County was chosen as one of the areas in the state for the pilot program. Since the student nutritionist had numerous opportunities to explore the role and functions of the public health nutritionist as she participated in the WIC clinics, a detailed analysis will be given of these experiences in Chapter V.

Evaluating

The evaluation of the plan is a measure of whether the objectives were met. The administrator can evaluate whether the method used produced the desired results. The initial identification of

need is the first step by which program evaluation is built into the program planning operation. Statement of objectives should be made in measurable terms, including short-range and long-range target dates. The nutritionist should plan the activities which must be accomplished to achieve the objectives and evaluate the resources available for use. With these preliminary phases of evaluation built into the planning, the evidence and data can be systematically collected during the implementation of the plan. When the point of evaluation of the plan is reached, information should be available to help decision makers decide on change, elimination, or continuance of the program.

The student nutritionist had the opportunity to review program plans which had been submitted to the Nutrition Office by county public health nutritionists. These nutritionists are responsible for developing their own program plan in response to the needs of the area. When the plans are received, the reviewer points out possible sources of trouble in implementation and evaluation. For example, when insufficient records were designed for the evaluation, the reviewer in the Nutrition Office suggested the kinds of data needed. This review process helped set standards for service and identified problems which might be encountered in the implementation of the plans.

The student nutritionist felt comfortable with the process and terminology of program planning. The principles of professional practice studied at the university found good use in this role during the field experience. She recognized the value of careful planning on the success of the total program.

II. NUTRITION EDUCATION

Nutrition education can be designed for presentation to individuals, groups of nonprofessionals, professional in-service, and other specific needs. The functions include teaching, training, field training, and mass media presentation. When the public health nutritionist plans nutrition education, she should first pinpoint what she is trying to do in the process. Kentucky public health nutritionists carry on an active program of nutrition education. The student nutritionist was appraised of these state nutrition education functions. She observed an example of effective individual nutrition education in Rowan County.

Nutrition education services for nutritionists and public health nurses in the state are available through the Nutrition Office. The program of prevention of nutritional disorders calls for broad supportive services to the state public health nutritionists and health personnel who render nutrition education to the county health departments throughout Kentucky. Materials for nutrition education are developed by nutritionists in the state Nutrition Office. Consultation is also available to other health personnel in developing educational materials such as those used for dental health education programs in the schools.

Individual

Educational materials are distributed to individuals upon request through the county health departments and the state projects. In areas where the local board of health has not staffed a public

health nutritionist, as in Rowan County, these educational materials and in-service training of staff are ways the Nutrition Office can serve the needs of the population. A nutrition phamphlet is available for each patient served by prenatal, infant, and preschool clinics.

Expanded Foods and Nutrition Education Program. The student nutritionist went on home visits with an Extension assistant in Rowan County, a paraprofessional who makes home visits to help low-income homemakers provide adequate nutrition for their families within their food budget. She makes return visits as long as she feels the family needs her help. Extension assistants are usually local residents who have the ability to deliver needed help to the people they serve. The Extension assistant in Rowan County was a native of the county, had grown up locally, and could easily establish rapport and close communication with the family.

Nutrition education in a rural Appalachian home begins with improving basic health standards. The student nutritionist observed the Extension assistant approach a few small problems during the visit. For example, she mentioned that with warm weather coming, it was about time to hang the back screen door to keep the flies out of the house, wasn't it? The screen door was leaning up against the house. She was able to make a point for food sanitation and pest control. In the same visit she inquired into the progress toward bringing water to the house from the well. The student nutritionist had observed the well in the yard. The Extension assistant suggested that the water be tested for

purity. A supply of clean water as well as sanitary disposal of wastes are basic health needs. The student nutritionist observed that the objective of helping the homemaker understand the elements of good nutrition requires patience and time.

The student nutritionist's background of experience had not included work in low-income homes. She could appreciate the ability of the Extension assistant to establish rapport with the homemaker and communicate a helpful message. She believes that the function of the professional public health nutritionist is better directed at in-service education for the paraprofessionals than at an attempt to render direct services when such cultural differences exist.

Group Work with Nonprofessionals

The student nutritionist was involved in the nutrition education phase of the WIC program in Rowan County. She had opportunity to practice group work with nonprofessionals in conducting nutrition education classes for the WIC participants. Complete discussion of that activity follows in Chapter V.

Public health nutritionists from the state Nutrition Office presented educational talks relating to nutrition by grade level or subject in the 34 schools with nutrition units included in their curricula. The nutritionists made use of various films and slide presentations for these nutrition education sessions.

Professional In-Service

One two-day workshop is sponsored each year by the Maternal and Child Health Section, Bureau for Health Services. The Nutrition Office has responsibility this year for the entire program. Approximately twenty nutritionists and 200-300 public health nurses from across the state attend the professional in-service training workshop. Subjects such as infant feeding practices and childhood nutrition assessment and care have been studied.

III. COUNSELING

The public health nutritionist in functioning as a dietary counselor applies scientific principles to the individual problems of patients. She is prepared to give direct patient services in the role of dietary counselor. Problems in normal nutrition and nutrition in disease are brought to the nutritionist for solutions. Nutrition in the life cycle can be given attention by the nutritionist through clinics and home visits.

Current trends toward decentralized government structure in Kentucky mean that the state public health nutritionists perform less often the dietary counseling function and leave the local public health nutritionist to carry out that role and function. The Nutrition Office has responded to the decentralized health delivery system with more direct services being rendered locally. A program objective was established to provide training to new local health nurses in nutritional counseling for high-risk prenatals and infants. Two such training sessions have been held this fiscal year.

Detection and outpatient treatment of metabolic disorders occupies two public health nutritionists assigned to the Birth Defects Clinics at the two Kentucky medical schools. The student nutritionist was able to attend one of these clinics and observed the counseling function as performed by one of the state nutritionists. To carry out screening for phenylketonuria (PKU) in newborn infants throughout the state, Laboratory Services provided for 42,079 PKU tests in 1972. Presumptive positive tests indicating high phenylalanine blood levels were followed by diagnostic evaluation to determine if classical phenylketonuria was present in infants. Infants with this inborn error of metabolism lack the enzyme for metabolizing the amino acid phenylalanine. Unless dietary management is used to prevent intake of this amino acid above the amount essential for growth, severe mental retardation could occur. Materials for necessary dietary modification are made available to patients by the Nutrition Office on a paying and non-paying basis. The nutritionist provides dietary counseling and dietary management supervision to the PKU patients. Close follow-up care through at least one home visit to each patient after clinic counseling and collaboration with other persons and/or agencies involved with each patient are necessary for effective management.

Patients with other nutritionally manageable inborn errors of metabolism are also provided dietary consultation. Juvenile-onset diabetic patients receive counseling from the nutritionists at Birth Defects Clinic. The student nutritionist had the opportunity to observe the counseling of young diabetic patients. The nutritionist was friendly

and genuinely interested in the patients. Her objective in dietary management was to maintain acceptable control of the diabetic condition through a planned pattern of meals and regular snacks each day. Meals always included a protein source to provide maintenance of metabolic processes. The children were taught to carry a snack, such as peanut butter crackers, at all times, in case they were delayed in reaching their regular source of food. The medical staff believed this patterned approach helped the patient's psychological acceptance of the disease and produced management results comparable with more traditional diabetic diets based on food exchanges. From a review of the patients' records, the student nutritionist found the counseling techniques and philosophy observed at the clinic had produced good results. The critical point in success was observed to be thorough counseling done at the beginning of the treatment to instill in the patient an understanding of the diet process.

The detection and outpatient treatment of nutritional deficiencies is an important function of the Nutrition Office. Supportive services are provided to state public health nutritionists and other public health personnel who provide nutritional counseling services to persons residing in Kentucky. Treatment in the form of vitamin and mineral supplements and therapeutic diet instruction are provided to persons needing such services.

Rowan County Health Department has not had the services of a public health nutritionist. Therefore dietary counseling of clients has been limited to information supplied by the nurses on request from clients.

St. Claire Medical Center, the hospital in Rowan County, has the half-time services of a therapeutic dietitian whose duties are to modify the regular house diet for special diets; visit each of the patients to find out whether he likes his hospital food; and give special diet instructions if such orders are made by physicians before the patient is released. The student nutritionist accompanied the dietitian on her round of duties in the hospital. The student nutritionist questioned the effectiveness of the superficial discussion of dietary modifications with the patients when implementation of the recommended changes is so difficult for them. She later observed the home settings of some of the patients and noted the differences in these homes and in the institutional setting of the hospital. Effective dietary counseling for these patients would have to begin with an assessment of their home lifestyle, their resources, and their cultural preferences for certain foods.

Home Health Service functions out of the St. Claire Medical Center and provides home nursing visits. In Rowan County the nurses have done the dietary counseling of patients without the supporting services of a dietitian due to lack of nutrition personnel.

Patients visited by Home Health nurses live along the mountain roads and back in the hollows. Many are isolated without telephone and transportation. The patients need the visits of the nurse to provide contact with the outside world and to receive medical attention during the convalescence from the disease conditions.

The student nutritionist observed home visits made by the Home Health nurse and realized the rapport and trust that the nurse had established with her patients through her genuine interest and concern in their well-being. The patients were attentive to her directions and did their best to follow them.

IV. CONSULTATION

In consultation the public health nutritionist functions as an expert in a problem-solving process between two or more persons. The process, meant to change the consultee by improving his skill and knowledge, is permissive and the consultee is not bound to accept the consultant's view. In consultation the discussion is centered around the problem. In this process the consultant does not and cannot carry administrative authority over the consultee. The nutritionist can make suggestions for improvements, but it is up to the person in authority to set the policy.

The student nutritionist was not called on to serve as a consultant during the field experience. However, an interview with the state dental program administrator provided the setting for consultation; the dentist acted as the expert on dental care of teeth, and the student nutritionist was the consultee in the process. The dentist as the consultant presented his professional advice concerning dental care. The student nutritionist was particularly interested in the dentist's viewpoints on causes of decay, because she was preparing to teach dental care to the WIC classes. The suggestions he gave were appreciated, but she was not bound to accept them.

V. TECHNICAL ASSISTANCE

Technical assistance and consultation are provided to the seventeen public health nutritionists functioning in health departments in the state. Setting standards for services rendered assists the area nutritionists to maintain quality programs.

The Nutrition Office provides technical assistance and consultative services for the diagnosis and management of heart disease in cooperation with the Branch of Chronic Diseases. Clinics at the two state medical schools operate under contractual arrangements to treat heart disease among children and adults.

Consultation has been provided to the Dental Branch on a program of prevention of dental disorders in Kentucky. The Nutrition Office has rendered technical assistance in developing educational programs and materials and in the implementation of a Dental Health Education project intended to train elementary teachers in an area of Eastern Kentucky.

The Nutrition Office staff functions to provide functional guidance and technical assistance to other programs and agencies involved in the health delivery system. Nutrition consultative services are provided to health professionals engaged in prenatal, infant, and preschool health services. Ten pediatric clinics in the state are part of a program of comprehensive pediatric health services responsive to the needs of medically indigent children in the state. County health departments may request from the state office such supportive services as technical assistance, consultation, and supplies for preventive

pediatric care, as well as establishing and implementing clinics. The Nutrition Office budgets funds so that the Maternal and Pediatric Services program can supply vitamin and mineral supplements to patients in the clinics. Infants not receiving fortified formula require these supplemental vitamins and minerals.

Maternity and Infant Care Project

The Nutrition Office provides technical assistance to the Maternity and Infant Care Project (M and I), begun in 1963, directed by the Growth and Development Branch in four counties in Eastern Kentucky: Bell, Floyd, Harlan, and Letcher. In these counties a high rate of premature births, maternal deaths, and infant deaths occurred; medical resources were limited; and general educational level, income, and living conditions were below average.

The mission of the project was to provide high quality comprehensive maternity and infant care services and continuity of care to low-income high-risk mothers and infants in the four counties; to lower maternal and infant mortality and morbidity; to improve the overall health of these women and their children; and to reduce the incidence of mental retardation. The broad objective of the Maternity and Infant Care Project was an intensive and concentrated effort to provide a comprehensive program of preventive health, social, and medical care services for eligible maternity patients and their infants. A medical team of nurses, doctors, nutritionists, and social workers work together to help the patients.

Emphasis is placed on upgrading the quality of nursing care given each patient. Nutritionists have not been available in all counties, so the nurses have done much of the nutritional counseling of the prenatals and mothers. In-service training in nutrition and nursing skills enabled the project nurses to provide more comprehensive services. Nutritional pamphlets have been developed for the project regarding weight gain, anemia, and diabetic diets.

Vital statistics reflect the positive benefits of the M and I Project. In 1971 the premature birth rate recorded for Kentucky was 7.9. The rate in the M and I counties was 8.6, while the rate for the project population was 6.6. The infant death rate for Kentucky in 1971 was 18.7. The rate for the M and I counties was 27.0, and the rate for the project population was 21.9 (19).

One of the WIC projects was granted to the M and I Project. It was reported that more of the project patients returned to clinic for regular health care appointments as they returned for food vouchers. The mothers at the M and I Project indicated that the WIC food was beneficial to the diets they were previously able to afford. Infants could be fed an iron-fortified formula much longer. Mothers said they had switched infants to whole milk at an early age mainly because they could not afford to buy the formula.

VI. INSPECTION AND LICENSURE

The dietary consultant performing inspection and licensure function in the Bureau for Social Services has a role and function apart

from the more traditional roles of the public health nutritionist: administrator, educator, counselor, and consultant. The inspection and licensure process is one of checking nursing homes for compliance with governmental regulations issued for patient care. The role of the dietary consultant involved in inspection and licensure is non-permissive and authoritarian, in contrast to the role of the consultant as previously discussed in this chapter.

The student nutritionist observed the inspection and licensure process in a skilled nursing facility. The dietary consultant made her mission patient care. She voiced her observations and used the regulations as the authority for recommended operating procedures. The session was a constructive interchange between the state dietary consultant, the registered dietitian employed as consultant at the nursing home, and the nursing home administrator.

Nursing home standards, related to operation and patient care, enforced for certification and participation in Medicare and Medicaid programs, are issued by the Department of Health, Education, and Welfare. Separate regulations are written for the three levels of care required by patients: personal care (PC); intermediate care facility (ICF); and skilled nursing facility (SNF).

The Kentucky regulations for minimum standards of operation of nursing homes have been established (17). Any nursing home operating in the state must provide patient care meeting these minimum standards.

VII. COORDINATION WITH OTHER PROGRAMS

Nutritionists staffing positions in other state health programs and in other Bureaus of the Department for Human Resources cooperate with state public health nutritionists staffing the Nutrition Office. Such coordination of effort helps to prevent duplication of activities and maximizes the effectiveness of each.

Children and Youth Project

The Children and Youth Project (C and Y) at the University of Louisville School of Medicine with a grant from the Department of Health, Education, and Welfare provides comprehensive health care to a population from birth to 8 years of age in Louisville. Services are provided for premature babies, high-risk infants, and children from the census tracts adjacent to the medical center. The student nutritionist had the opportunity to observe the nutrition component of the C and Y Project. The mother of an active toddler received dietary information and counseling from a project nutritionist. This child was reported to have weighed only 1 pound 13 ounces at birth. He had received continuous health care at the project since birth. The nutritionist was observed taking a dietary history and assessing current food habits as a base for ongoing assessment of the child's nutritional status. When the mother objected to having points subtracted from the child's dietary score for the candy she had given him as a reward, the nutritionist showed little concern for the viewpoint of the mother on rewards. She could have accomplished an educational function by

teaching that candy was bad for teeth or by suggesting that some other nutritious food or an outside experience with the parent be used as a reward.

At the C and Y Project, a multidisciplinary team of medical and allied health personnel provide the care needed, including medical and dental services. Financial eligibility is determined for treatment services. One of the thirteen WIC projects in Kentucky is being conducted for eligible participants in the C and Y Project.

Food Stamps Program

Food stamps will be available in each of the 120 counties in the state of Kentucky as of July 1, 1974. Food stamps may be purchased by eligible citizens to help stretch their food-buying power. The Bureau for Social Insurance, Division of Income Maintenance, administers the state Food Stamps Program. Regulations for the program in Kentucky duplicate the federal guidelines issued by the United States Department of Agriculture, the agency responsible for administering the legislation authorizing the program. Eligibility guidelines take into consideration current food prices, family income, and size. Adjustments to higher income standards are made with rising food costs.

One nutritionist works with the state Food Stamps Program. She prepares educational materials, including tip sheets for distribution by public assistance social workers, Extension assistants, WIC project clinics, and public health nutritionists. During the period of state governmental reorganization, and consequent uncertainty of

direction, this nutritionist has continued to carry out her role effectively. The student nutritionist had the opportunity to visit her in her office, which was in a state of upheaval due to complete redecoration of the state office building. The food stamp nutritionist knew the characteristics and needs of her audience and prepared materials suitable for the season and their needs. She evaluated the good and bad points of the materials she prepared and welcomed response from health personnel to whom she sent the pamphlets for distribution. Her real interest in serving the needs of the population was very clear.

In Rowan County approximately 1,002 households receive food stamps. Eligible residents can buy food stamps at the post office. Local grocers benefit from having the food stamps used in their stores and the money spent in town.

National Nutrition Program for the Elderly

There are seven projects in Kentucky operating under the Title VII National Nutrition Program for the Elderly formula grant. Meals are served in a congregate setting, except for a maximum of 10 percent of the meals in any one project which may be home delivered (20).

The nutritionist on the staff of the Aging Program Unit reviews the meals planned for the projects to assure their dietary adequacy. Each meal must provide one-third of the Recommended Daily Allowance as established by the National Research Council. The state each year receives an allotment of federal funds, based on the number of elderly in the state 60 years of age or older, as provided for in the Older

Americans Act. There are approximately 240,000 people 60 years of age or older and in 1973 the state received $1,500,000 to carry out this program. Projects must provide at least one hot meal per day five days per week.

Serving in groups provides an opportunity for the elderly to come together out of the isolation in which many exist in their homes. The group setting is also an excellent opportunity to implement the nutrition education which is one of the supporting services required by the program. If the nutritionist can help the elderly understand what they need to eat for good nutrition, then the elderly should be more motivated to eat the meal provided for him by the program and to make better choices at home.

Other services must be provided by the project under the regulations, such as outreach, transportation and escort, programs of interest, and activities. These services can be financed with Title VII funds; however, not more than 20 percent of a state's annual allotment can be used for any service activity other than the preparation and delivery of meals.

Each project is required to have a project council, made up of consumers of the services of the project and other interested individuals. The council approves all policy decisions concerning the project. Kentucky is responsible for between 3,250-3,300 meals per day, the goal of the state program. Each of the seven projects has a varying number of feeding sites, depending on the needs of the particular area. There are presently 36 feeding sites operating in 20 counties in Kentucky.

CHAPTER V

PARTICIPATION IN THE SPECIAL SUPPLEMENTAL FOOD PROGRAM FOR WOMEN, INFANTS, AND CHILDREN (WIC)

The student nutritionist had various opportunities during the field experience to explore the role and functions of a public health nutritionist. These experiences enabled the student nutritionist to reflect on her own abilities to function in these roles after participation in or observation of the event.

While the student nutritionist was at the Rowan County Health Department during the field experience, the WIC program was underway. Her special service activity for the field experience was participation in the WIC program in Rowan County. Participation in all the roles and functions of a public health nutritionist was possible through this opportunity. The student nutritionist's strengths and weaknesses and need for continued development were shown through her performance. The participation experiences in the WIC activity are presented in the framework of the steps of the planning process, in order to report on the activity as a whole.

I. BACKGROUND AND BASIS OF NEED

The student nutritionist had access to resource material resulting from development of the Special Supplemental Food legislation (21). She studied that information as well as the state regulations

for implementation procedures in order to fully acquaint herself with the background and need for the program (22). This survey of the literature was conducted as independent research and proved very enlightening and helpful in the total understanding of the Rowan County program.

Poverty and malnutrition are found among many women and infants in our country, making them a nutritional risk (21). Low-birth-weight infants born to low-income mothers who lacked adequate nutrients during pregnancy are at nutritional risk.

The influence of poverty and undernutrition on mental development in humans has few if any conclusive answers. Evidence that adequate nutrition brings many health benefits, improves physical growth, and possibly promotes intellectual development, justifies programs to improve the nutritional status of women and children (21).

Zee reported that lack of food was the main cause of growth retardation and anemia common among preschool children from low-income Black families surveyed in Memphis, Tennessee (23). Half of the children were below the 25th percentile of Stuart growth charts. Anemia was a serious problem.

Evidence of growth stunting, anemia, and nutritional shortcomings were found among low-income children in the Ten-State Nutrition Survey. Those results indicate that substantial numbers of low-income American children were underweight and undersized (11). The evidence from the survey indicates iron deficiency occurred in pregnant and lactating women, as well as marginal protein nutriture as measured by low serum

albumin levels. The frequency of unsatisfactory pregnancies and the excess of low-birth-weight babies in low-income groups could be related to inadequate protein intake (11).

Funds for the Special Supplemental Food Program were authorized in September 1972 when President Nixon signed the Special Supplemental Food Program legislation under Public Law 92-433, which provided $20 million be spent in fiscal year 1973. Section 9 of the Public Law 92-433 amended the Child Nutrition Act of 1966 by adding Section 17, authorizing a special supplemental food program for pregnant or lactating women, infants, and children (WIC) who are determined by competent professionals to be nutritional risks because of inadequate nutrition and income (21).

The United States Department of Agriculture, Food and Nutrition Service, was delegated the responsibility for implementing the WIC program. The Department was instructed to collect data to evaluate the effect of food intervention upon populations which are at nutritional risk and also to evaluate the WIC program operations for administrative effectiveness and efficiency. Congress intended the WIC program to be a pilot program to assist in developing a national policy relating to the needs of infants and mothers determined as nutritional risks.

Need for WIC Program in Rowan County

In 1971 there were 239 births in Rowan County among the 3,600 resident females in the childbearing age of 18-44. Rowan County had 239 infants under 1 year of age, and 1,250 children 1 through 4 years

of age. In 1971 the birth rate was 14.0 in Rowan County, compared to the birth rate of 17.7 in the state. There were four stillbirths, with a rate of 16.5 in the county, higher than the state rate of 12.2 (9).

At the present time, the Rowan County Health Department does not have a nutritionist or a program dealing specifically with nutrition. The county health nurses act in an advisory capacity when clients ask specific questions about subjects such as infant feeding. Pamphlets on nutrition and special feeding problems are available at the Health Department for the public.

Residents eligible for other services of the Health Department need to be made aware of the existence of such services. One positive benefit of holding the WIC program clinics at the Health Department is to acquaint the WIC participants with other services, such as family planning.

Family planning services are available to any resident of the county. Yet only 422 women enrolled in the Family Planning Program in 1971-72 with a total clinic attendance of 1,048 (9). The local physicians have an estimated 1,500 women receiving family planning services. This means that 53 percent of the eligible women are receiving family planning services. Twelve percent are receiving these services from the Health Department. It is estimated that 678 women in Rowan County who need this service are not participating in any family planning program.

The student nutritionist gained insight into local needs by personal observations on home visits. Such visits presented a vivid

picture of the deprivation under which low-income county residents live and of the need for supplemental food. These home visits permitted observation of the complexity of problems with which low-income families must cope, such as sub-standard housing, limited food supply, poor personal hygiene, and lack of education.

Survey results indicate 76 percent of the homes in the county have inside plumbing (5). Most of these homes belong to city residents or middle-income rural residents. Inside plumbing is less commonly found in low-income rural homes. A source of sanitary water is often a problem. Sterile ready-to-use iron-fortified formula is an appropriate and beneficial food for the infants in low-income families and is available to the WIC participants.

Supplemental Foods

Vouchers are issued to the participants, who take them to the grocery store and redeem them for the foods prescribed under eligibility guidelines (22). Supplemental foods available under the WIC program for infants under 1 year of age include iron-fortified-formula, iron-fortified infant cereal, and fruit juice. Vitamin D fortified whole fluid milk or evaporated milk may be substituted for the formula after 6 months of age.

For children under age 4 and pregnant or lactating women, supplemental foods available include whole fluid milk, eggs, iron-enriched cereal, and fruit juice. Vitamin D and A fortified skim milk, low fat milk, nonfat dry milk, or cheese may be selected in place

of whole milk. Cereals enriched with iron to provide 30 milligrams of iron per 100 grams of dry cereal are permitted.

The maximum administrative and clinical cost of the WIC program was limited to 10 percent of the total expenditures for food. A definite number of eligible participants was assigned to each project. In Rowan County the case load was 187. A greater number of participants could not be enlisted. As a result variations in food costs could limit administrative funds and program activities. The Rowan County project grant was for $34,000 through June 30, 1974.

Nutrition Education

Nutrition education was not written into the U. S. D. A. regulations for the WIC program. Teaching participants what foods are needed for good nutrition and how to buy food for best nutritional value is essential for real lasting benefit of the program. Nutrition education classes in Rowan County were the result of local planning to strengthen the total influence of the WIC program.

Outreach

Effort put into outreach among the WIC participants would be expected to strengthen the program. This facet of planning was not included in the regulations and has not been formally implemented locally.

Nutritional Status

In acquainting herself with the medical screening phase of the WIC program, the student nutritionist evaluated the plans in terms of

the usual components of a nutritional status survey to ascertain the quality of medical data that could be obtained from the WIC study. In a complete nutrition status survey, information includes clinical data, dietary intake records, and biochemical measurements. Clinical data were obtained on the initial visit made by the participant to the clinic. Rapid implementation of the program in Rowan County in February, 1974 prevented obtaining complete baseline medical data and anthropometric measurements. Heights, weights, and individual hematocrits were taken on the participants at the initial visit and will be repeated after 6 months. Twenty other WIC program sites in the nation were selected for a full medical evaluation. Dietary intake records were not taken from the participants on the initial visit because of lack of time. This information would be necessary for meaningful discussion of nutritional status. Biochemical data is also lacking in Rowan County. The hematocrit was the only biochemical measure taken. The student nutritionist was not able to find any measurable evidence as to the beneficial effects of the supplemental foods in Rowan County since the pilot program had been in operation only a few months. Evaluation of medical data will be an indication of the improvement in nutritional status among the participants.

II. OBJECTIVES

The author's main objective in participation in the WIC program was to integrate the opportunities to explore the roles and functions of the public health nutritionist in one major learning activity and to

assess her ability to function within those roles. Specific learning objectives for the participation in the WIC program were related to the functional roles:

1. to apply the principles of public health program planning to a federal pilot program;

2. to plan, implement, and evaluate one nutrition education lesson and deliver it to a number of WIC classes;

3. to gain experience in the consultation process;

4. to provide dietary counseling service to prenatals, mothers of infants and children during the WIC clinics.

III. IMPLEMENTATION

Administration

The student nutritionist had good opportunity to apply a wide number of principles of professional practice in the implementation of the objectives for the WIC program activity. To carry out the administrative objective, she assessed the background and need for the WIC program in Rowan County. The student nutritionist gained a better understanding of the background and need of the WIC program and the rationale on which planning was based, through study of documents and through field observations.

The need to build evaluation into the program plan was considered by the student nutritionist. Since she was not an authorized staff member of the Rowan County project, her responsibilities did not include any official record keeping. She did, however, prepare vouchers

following the eligibility guidelines for kinds and amounts of supplemental foods. She also made observations on the effectiveness of the WIC food delivery system as it operated in Rowan County.

Observations of the WIC Food Delivery System

In Rowan County the WIC program used the voucher system for making specified nutritious foods available to the participating women, infants, and children. The mechanics of distributing this food have been viewed by the nutrition student.

What worked well. Use of vouchers in themselves was a control so that participants got food appropriate to their needs. Vouchers were a teaching aid in establishing a buying pattern for foods considered important for good nutrition. Participants return regularly for vouchers. Vouchers provide data on how much of each food is supplied, the cost of the food, and ratio of vouchers issued/redeemed.

Including nutrition education in the WIC clinics strengthens the benefits of the nutritious foods. The Senate Select Committee stressed the importance of the nutrition education component of the WIC program to cause changes in the food habits of the participants. Teaching participants how to improve their own dietary management and how to make better use of their family food buying power extends the influence of the program far beyond the improvements in nutritional status measured by clinical and biochemical tests.

What has not worked well. A squeeze was created by the great amount of paper work, forms and reports, required by the program against

the limited allowance for administrative costs. The maximum administrative and clinical cost of the WIC program was limited to 10 percent of the total expenditures for food. WIC staff reported that the limit made it very difficult to produce correct and complete reports.

More time for the nutritionist to do an adequate job of outreach and nutrition education would greatly enhance the chances for long-range modification of the individual dietary habits of the participants. Individual counseling of patients would be desirable.

Nutrition Education

When the public health nutritionist plans an educational activity or session, she must first define for herself what her teaching objectives are, so that she will know the most appropriate and effective methodology for the purpose. Adjustment to the variation in educational ability may be necessary to make the learning relevant to the learner. Some of the WIC participants were unable to read and write. Activities in which these skills were needed had to be modified for the group in which participants were present with those limitations.

Participation in the WIC program in Rowan County gave the student nutritionist weekly experience in how to plan, conduct, and evaluate her abilities in nutrition education. Planning a teaching unit on dental care brought these steps into use. The student nutritionist set up the objectives of the unit as: to increase the WIC participant's understanding of the causes of tooth decay; to promote restriction in use of sugar and sugar-containing foods in the diet; and to stress the

importance of completely removing dental plaque by flossing and brushing to reduce the chance for tooth decay. She assessed the resources available from which she could obtain information, teaching supplies, audio-visual materials, booklets, and sample toothbrushes for the children. She consulted with the state dental program administrator and obtained other dental supplies from the state health agency. She had observed that in the previous WIC teaching unit, many of the mothers and children lost interest during a 15-minute slide presentation on nutrition because of the length. Applying educational theory that a person learns by his own activity, the student began the lesson with an activity for the participants. They were asked to write down sugar consumption over the previous 24-hour period. This activity was meant to help the individual women judge their own sugar consumption habits and to realize the need to reduce sugar consumption to decrease the opportunity for tooth decay.

An example of the effectiveness of the teaching plan was the report of the mother who said she had wanted to stop giving her son a sweet fruit drink for a between-meal snack, as he insisted. She said this lesson gave her the courage to stop because she felt she understood why he should not have such a drink between meals.

Informal in-service education was conducted for the WIC project staff (nurse, director, and nutritionist) and other health department personnel. Questions about the values of foods on the program were answered informally. For example, the staff discussed the rationale for the WIC program to include an egg a day for each participant, in

view of the medical controversy over cholesterol in the diet. The student nutritionist brought out the concept that medical authorities recommend that a diet highly-restricted in cholesterol should be undertaken on orders from a physician.

Comments from the staff indicated that they had learned a good deal about nutrition from work on the project. Restrictions on budget expenses for administrative and clinical costs prevented the scheduling of regular formal in-service nutrition education.

Through participation in the WIC program, the student nutritionist was able to observe changes taking place in the food habits and attitudes of the participants because nutritious food was available and because of the nutrition education classes. Class topics included the basic daily food needs, food for little folks, how diet relates to dental care, and others. The classes provided a chance to talk over questions and problems. Mothers who had infants who would not eat vegetables, or who had children who demanded food all day long, or who needed help in family planning all shared their concerns. The WIC program supplied food to help meet the nutritional needs of the participants, who either did not have money to buy the food, or did not know just what they should be eating for good nutrition. The same lack of money created other needs met by the program. Changes could be recorded in what the participants said about their food likes and habits. Sweet soda pop was not always the first drink of the day or the last drink at night. Ample supplies of milk and fruit juice made these beverages preferred.

Mothers also expressed ways they were gaining confidence in managing their children and guiding them in establishing consistent patterns conducive to good nutrition and good health. For example, a mother reported she had been adding sugar to her infant's cereal to make it taste better. Then she realized she was sweetening the cereal for her own tastes and not the baby's. She said she had stopped sweetening the cereal and understood why the baby did not need the sugar.

Counseling

During the WIC clinics, the student nutritionist had many opportunities for dietary counseling. The mothers and their children were individually counseled in relation to nutritional needs as a part of preparing the vouchers for the supplemental foods.

The nutrition student feels her function as a dietary counselor is meaningful to individuals requiring diet modifications. She observed the home environments of some of the participants and understood their hardships. Such insight strengthens the belief that relevant dietary counseling should begin with patients as they are. Cultural dietary patterns should be evaluated at the onset of counseling to fit the adjustments into the usual pattern of eating, if at all possible, and therefore to increase the chances of successful modification.

Two dietary problems brought to the student nutritionist for counseling are given as examples of the experience. An anemic girl, age 2, the child of an anemic mother, hematocrit 33 percent, was a

participant in the WIC program. The mother asked for help herself since the condition was a family problem. She said she had previously been treated for anemia, especially during her pregnancy. The mother had taken iron supplements with little improvement of the hematocrit. Evidently her body was unable to absorb much of the iron she consumed. She further explained that during her childhood in a coal miner's family in the Eastern Kentucky coal field, money for food was scarce and meat seldom was served. She therefore never ate much meat, never learned to enjoy eating it, and had difficulty teaching her daughter to eat meat. She asked for nutrition pamphlets on iron-rich foods to be able to better select food for herself and for her child. The student nutritionist provided her with a pamphlet prepared by the state Nutrition Office on iron-rich foods. The student nutritionist also pointed out that one serving of the approved cereals on the WIC program helped provide participants with a day's need for iron. At least 30 milligrams iron per 100 gram portion cereal is the level of fortification of the approved cereals. One serving provides less than the National Research Council's Recommended Daily Allowance for iron. Dietary counseling stressed the importance of eating such a cereal, as well as the value of the iron in the eggs provided through the program. The student nutritionist was somewhat uneasy in the beginning of this experience since she had previously done dietary counseling. She was able to establish a sense of trust with the counselee through her real interest in the problem and desire to help improve the anemia. The counselee received the advice and pamphlets

with appreciation and expressed thanks for the help provided.

Another example of dietary counseling was with an obese mother and her healthy baby boy. The mother was very concerned that her son's weight should not go over the normal range for his height as he grew up. She was very aware of her own weight problem. While she had not been able to regulate her own dietary intake to prevent overweight, she wanted help in teaching her son to control his weight. The student nutritionist explained the basic four food groups to the mother and the nutritional needs met by eating these foods. The temptation of extra calories in foods that do not contribute necessary nutrients was also discussed. The mother appreciated the method of approach to diet planning and said she felt more confident regarding her son's future weight control.

Consultation

During the WIC program, the student nutritionist hoped to learn more about consultation and how she could strengthen use of that technique. The principle of consultation previously established stressed the importance of the permissive atmosphere of the relationship, in which the consultant as an expert offers suggestions which the consultee can evaluate and accept if he chooses.

As an experience in consultation, the student nutritionist met with the public health nutritionist for the WIC project, who had edited many of the state nutrition pamphlets during her tenure with the state Nutrition Office. The student nutritionist was confused by the conflict

in policy for introducing certain solid food to infants. The schedule in the pamphlet from the Nutrition Office suggested an age to start these feedings different from the practice of local pediatricians. The student nutritionist asked questions regarding the rationale for the schedule in the pamphlet. The nutritionist explained that the schedule was based on current pediatric practices followed by the state health agency. The student nutritionist had encountered some WIC program participants who had been encouraged by their physicians to give their babies certain foods at an earlier age. While the nutritionist was the expert in this period of consultation, nevertheless the student nutritionist could decide her own manner of approach to the mothers who had been told one timing by their physician and another by the pamphlet.

The student nutritionist can approach future practice of the function of consultation with a firm understanding of the basic principle. Even though she did not function as a consultant during the field experience, she did participate in the experience and can continue use of the technique.

IV. SELF-EVALUATION OF PERFORMANCE

Administration

The student nutritionist participated in the planning and evaluation of procedures used to prepare and process the WIC vouchers. This staff activity had to be done in the manner required for accurate recordkeeping. Information from several forms used for recordkeeping were

summarized into one overall monthly report. The project director held the assignment to prepare the monthly report.

The nature of the nutrition student's participation in the WIC program negated her responsibility for completing the usual administrative forms. She observed that the administration of this pilot program is a frustration to local project personnel because of the complex regulations.

The student nutritionist could analyze her ability to function in administration through the activities connected with program planning. She felt competent to carry out the assessment of the need for the WIC program and also to observe the effectiveness of the WIC food delivery system in Rowan County.

Nutrition Education

The nutrition education function of the WIC program was a very rewarding part of the experience. The opportunity to use the principles of nutrition science to teach individual WIC mothers brought a great deal of satisfaction. Other opportunities to visit the participants' homes and see their lifestyle enabled the student to make the lessons more relevant.

The student nutritionist felt somewhat unsure at the beginning of the field experience of her ability to speak informally yet authentically to the classes. Practice in applying the principles of nutrition has resulted in a growing sense of confidence in being able to communicate the message of good nutrition. The participants were

supporting in their response to her efforts. The student nutritionist believes that these positive experiences will facilitate continued growth and development of her ability.

Counseling

Direct patient service was a regular function of the student nutritionist in the WIC program. A parallel comparison in growth in confidence can be drawn between the abilities as a nutrition educator and as a counselor. In the beginning of the field experience, lack of counseling experience made the student nutritionist ill at ease with this function. Through practice, and through her interest in the problems of the people, she gained a great deal of self confidence, and believes she made personal growth in her abilities. She intends to continue study of therapeutic dietetics.

Consultation

In the WIC program the function of consultation was not required of the student nutritionist, although she did learn more about the philosophy of consultation and gained some practice in being the consultee. While her learning in this area was mostly theoretical, she believes her ability to function will be strengthened as she gains more experience in public health nutrition.

CHAPTER VI

SUMMARY AND CONCLUSIONS

At the completion of the field experience, an appropriate effort should be made in evaluating whether the objectives for the field experience were accomplished. The experiences in the county and the observations at the state office enabled the student nutritionist to strengthen her philosophy and understanding of public health. The student's philosophy of public health is to promote comprehensive health care for all citizens and to support individual responsibility for health maintenance. During the field experience the student nutritionist developed insights into the influence of cultural values on the total lifestyle of an area and the importance of considering these values in public health planning.

A thorough study of the state public health agency was accomplished. The administrative staff of the Nutrition Office provided sample resource material requested for this study. The student nutritionist had a wide variety of experiences through which she could explore the role and function of the public health nutritionist. She sees the public health nutritionist as a health professional who can assess need, organize resources, plan activities directed toward particular nutritional problems, and evaluate their success. These efforts all fit together to help each citizen understand what he needs for adequate nourishment and to choose wisely for himself.

The student nutritionist observed the Rowan County health delivery system at work, as it provided services to meet the needs of the people. Clinics held at the health department are aimed at younger population groups who can arrange their own transportation without great difficulty. For th cal population which has great physical limitations in obtaining medical services, nurses from Home Health Service can provide the attention they need. In other larger health departments with adequate nursing staff, the public health nurse spends a great deal of her time in home visits. The student nutritionist had observed that system in the Knox County Health Department, Tennessee. However, with only two public health nurses in the Rowan County Health Department, the demands of the health department clinics and other services meant that they could make only occasional home visits to call on patients.

Participation in the WIC clinics has been a particularly fine opportunity for the student nutritionist to put to use the principles of nutrition learned at the university. Practicing nutrition education has been a rewarding process. The importance of gearing the delivery of the lesson to the particular group present has been demonstrated in the WIC clinics. Cultural patterns or limitations of education make a real difference in carrying out nutrition education activities. For example when the mother is counseled who cannot read, other symbols to identify labeled food items must be utilized. The student nutritionist's interest in education as a continuing process in life underscores her reason for seeking an understanding of

educational principles and skills on which to base educational practice.

The student nutritionist has observed the changing structure of a state public health organization, a process which sharpens the basic dedication to service required by the public health professionals. The frustrations of this process call for leaders and staff who can see the real purpose of their work and relate their objectives to emerging structure and programs. In this reorganization the detailed organizational chart showing the position of the Nutrition Office is yet to be developed.

The field experience has been a realistic involvement with the delivery of health services in Kentucky during a transitional phase of governmental organization. The student nutritionist was able to accomplish her objectives for the field experience and has a better understanding of the people of the state, their health problems, and the health programs designed for solution.

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APPENDIXES

APPENDIX A

CLASS SPECIFICATIONS FOR NUTRITIONISTS' POSITIONS

CLASS TITLE: Nutritionist I

CHARACTERISTICS OF THE CLASS: Under local administrative direction and with technical guidance from the Nutrition Division of the State Health Department to carry out a program of activities dealing with the application of the scientific knowledge of nutrition to the promotion of health and the prevention of disease; and to do related work as required.

EXAMPLES OF WORK:

1. Plans, coordinates and promotes continuous programs of community education in nutrition with agencies and organizations.
2. Assists school personnel, public health workers, social workers, etc., in the use of activities and materials for improving food habits and health.
3. Cooperates with workers in health or allied agencies in regard to dietary needs of individuals, families and institutional groups.
4. Promotes and makes local surveys of food habits of children and adults.
5. Prepares talks and articles on nutrition to be used for meetings, newspapers, radio, television, etc.
6. Teaches groups such as parents, pregnant mothers and weight control groups.
7. Gives individual consultation to persons with such problems as special diets, diets for preschool children, diets for pregnancy, planning family food orders and menus at low cost.

MINIMUM QUALIFICATIONS:

Training and Experience

A Bachelor's degree in home economics from a college or university of recognized standing with a major in foods and nutrition or allied subjects equivalent to the requirements for a major in nutrition.

Knowledge and Abilities

1. Knowledge of the principles, terminology and practices of nutrition.
2. Knowledge of the nutritional food requirements for good health based on body needs.

3. Knowledge of community health organizations and agencies concerned with education, nutrition and health.
4. Knowledge of school lunch programs.
5. Ability to gain professional and community support in maintaining nutrition programs.
6. Ability to prepare articles and talks on nutrition.
7. Ability to evaluate own accomplishments and nutritional aspects of the agency program.
8. Ability to work with people.
9. Should demonstrate or illustrate physical fitness by own health.

CLASS TITLE: Nutritionist II

CHARACTERISTICS OF THE CLASS: Under the general direction of a Health Officer and the technical supervision of the Nutrition Division of the State Department of Health to assist in conducting a program of public health nutrition; and to do related work as required.

EXAMPLES OF WORK:

1. Gives consultant service to and through local health departments in regard to nutritional problems.
2. Participates in planning, coordinating, and promoting a continuous program of community education in nutrition for both professional and lay groups.
3. Gives consultant services and in-service education to local health or allied agencies in regard to dietary needs of individuals, families and institutional groups.
4. Works with local agricultural, educational and home economics agencies and individuals to promote production, selection, proper preparation and preservation of such foods necessary for an adequate diet.
5. Promotes and makes local surveys on food habits of children and adults.
6. Assists in preparing and assembling material of nutrition education for use by public health workers, teachers, etc.
7. Guides and directs schools in the use of activities and materials for improving food habits and health.
8. Assists physicians, nurses and other professional workers with nutritional aspects of medical problems and prepares special diet material on request.
9. Prepares talks and articles on nutrition to be used for radio, television, newspapers, meetings, etc.

MINIMUM QUALIFICATIONS:

Training and Experience

1. A Bachelor's degree in home economics from a college or university of recognized standing with a major in foods and nutrition, or a

Bachelor's degree in other subjects; such as, chemistry, biology or education with additional courses in foods, nutrition and allied subjects equivalent to the requirements for a major in those fields for Bachelor's degree in home economics.

2. A Master's degree in nutrition, home economics, home economics education or public health with advanced courses in nutrition from a recognized college or university.

(Two years of successful paid experience as a nutritionist in a public health agency may be substituted for the Master's degree.)

(Three years of successful paid experience as any of the following may be substituted for the Master's degree.)

1. Home economist or nutritionist in a welfare agency.
2. Therapeutic or teaching hospital dietitian.
3. Dietitian or nutritionist employed by a food clinic, child development center, school system, nutrition council or committee.
4. Research worker in human nutrition.
5. Teacher of foods and nutrition in a school, college or university.
6. Home demonstration agent in Agricultural Extension Service.
7. Home management supervisor in the Farm Security Program.

(At least one year of training or experience must have been within five years previous to accepting position.)

Knowledge and Abilities

1. Thorough knowledge of the principles, terminology and practices of nutrition and food habits of an area.
2. Specific knowledge of the nutritional requirements for good health of pregnant and nursing mothers, children of all ages and adults (including the aged).
3. Knowledge of the growth and development of children.
4. Knowledge of community health organizations and agencies concerned with education, nutritional welfare and health.
5. Wide knowledge of the comparative costs of various foods in relation to their nutritional value.
6. General knowledge of the school lunch programs and of elementary and secondary school health and home economics programs.
7. Ability to train others in the principles and application of nutrition.
8. Ability to develop nutrition programs and services in schools and communities.
9. Ability to evaluate nutrition services and programs.
10. Physical fitness.

CLASS TITLE: Nutritionist III

CHARACTERISTICS OF THE CLASS: Under administrative direction of the Health Department Director in a district health department or a local health department with a staff of 30 or more and with technical supervision of the Director of Public Health Nutrition, State Bureau for Health Services, is responsible for the public health nutrition program within an assigned geographic area.

EXAMPLES OF WORK:

1. Plans, develops, supervises, conducts and evaluates nutrition services in an assigned geographic area, as a part of the statewide nutrition program.
2. Coordinates, within the geographic area, nutrition services with other operating programs of the public health agency.
3. Evaluates the geographic area nutrition services and recommends policies, standards and programs to meet needs.
4. Provides nutrition consultation to professional and allied health staff, public health, and related agencies.
5. Plans for, and provides nutrition and food service management consultation and technical assistance to institutional facilities; evaluates operations.
6. Interprets public health nutrition programs and research findings to, and maintains cooperative relations with civic, educational, governmental, research, and other groups concerned with food and nutrition.
7. Plans, prepares, supervises and conducts in-service educational programs in nutrition for professional and allied health staff in the geographic area.
8. Prepares, reviews, and selects nutrition informational materials for dissemination to various communication media.
9. Participates in and conducts studies and surveys within the geographic area on the relationship of dietary factors to health and disease.
10. Supervises the public health field experience for students studying nutrition.
11. Reports and summarizes progress and activities at regular intervals; prepares periodic and special reports. Performs related duties as required.

MINIMUM QUALIFICATIONS

Training and Experience:

(For promotional purposes only; five years of experience as a Nutritionist II.)

Graduate of an accredited college or university with a Master's Degree in Nutrition, Home Economics, Home Economics Education, or Public Health with advanced courses in nutrition, three years of progressively responsible experience in a nutrition or health program. Completion of an American Dietetics Association Internship may be substituted for one year of experience.

Knowledges, Skills, and Abilities

1. Thorough knowledge of human nutrition and its relationship to health and disease.
2. Thorough knowledge of community resources in public health nutrition.
3. Knowledge of principles of institutional food service management.
4. Knowledge of social, cultural, and economic factors of individuals and families as they apply to public health nutrition.
5. Knowledge of research methods as applied to public health nutrition.
6. Knowledge of principles of consultation.
7. Ability to prepare acceptable materials for use by communication media.
8. Ability to present ideas clearly and concisely, orally, and in writing.

APPENDIX B

MANAGEMENT BY OBJECTIVE

TABLE 2

NUTRITION QUARTERLY PROGRESS REPORT, JULY-DECEMBER, FISCAL YEAR 1973-74

Objective	Objectives Obtained	Planned Expenditures	Actual Expenditures
1. Implement a surveillance program in 25 counties on 5000 children 6 months to 18 years of age to determine the prevalence of children with growth problems or low hematocrits and/or hemoglobins.	1. 21 counties have reported data on 1816 children; 84 percent of counties and 36 percent of children. Justification: Reporting only began last quarter. Time was needed to develop and implement program.	$600.00	
2. (a) Provide screening for 39,000 (in state lab) newborns for PKU.	2. (a) During the first two quarters of this year 20,053 tests were performed in the state lab on 19,050 children (95 percent of tests--individuals), 49 percent of objective.	-0-	$8,021.20
(b) Follow-up 90 percent of the infants with presumptive positive tests.	(b) To date 21 infants have had presumptive positive tests. 19 have been confirmed negative, 2 still are being followed for 100 percent follow-up. Justification: No patients have refused to cooperate.		
3. (a) Provide direct services to all children (90) with metabolic inborn errors.	3. (a) Provided direct services to 71 children (26 PKU, 49 visits--31 diabetic, 49 visits--14 other--18 visits), 79 percent objective. Justification: These children needed attention during this quarter. We placed priority on their management and met need.	$6,000.00	$1,341.64
(b) Supply therapeutic dietary food (Lofenalac) to 28 PKU children. (1) Supply formula free to all (20) meeting income criteria. (2) Supply formula to paying patients (8) who cannot obtain formula elsewhere.	(1) Supplied Lofenalac to all children (17) meeting income criteria. 100 percent objective (3 children went off formula voluntarily). (2) Supplied formula to 8 children whose parents reimbursed the branch for the formula. 100 percent objective.		
4. Provide training in nutrition counseling for high risk prenatal and infant, to local health staff 3 times per year.	4. Provided 2 training sessions to new local health nurses during this quarter for 67 percent of objective. Justification: Training held this quarter.		

VITA

Jane Ellen Gibson Baxter was born in Bryan, Texas on October 9, 1938. She attended elementary schools in that city and was graduated from Stephen F. Austin High School in 1956. She attended Texas Technological University for the 1956-57 academic year, and then entered Iowa State University. In June 1960 she received a Bachelor of Science degree in Food and Nutrition. She was an Assistant Editor in the Foods Department of Better Homes and Gardens magazine from June 1960 until August 1961. After her marriage in August of 1961 to Richard P. Baxter, she became an Assistant Editor on the Farm Journal magazine in Philadelphia, Pennsylvania.

She entered the Graduate School at The University of Tennessee in January 1973 and received the Master of Science degree with a major in Nutrition in August 1974. She is a member of Mortar Board and Phi Kappa Phi.

She is married to Richard P. Baxter and is the mother of Beth, Jo Ellen, and Richard.